

Notice of Allowability

Application No.

10/707,358

Examiner

Shouxiang Hu

Applicant(s)

WANG, YU-PIAO

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the 02-24-2005 Amendment.
2. ☒ The allowed claim(s) is/are 20,21,26 and 27.
3. ☒ The drawings filed on 03 December 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

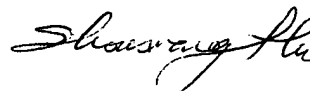
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☒ Other Email Records.



SHOUXIANG HU
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an email by Belinda Lee (RN: 46,863) on May 9, 2005.

The application has been amended as follows:

IN THE CLAIMS

Claims 1-19 (canceled).

20. (currently amended) A semiconductor device structure, the structure comprising:

an active region and an isolation region, disposed in proximity to each other on a substrate;

a plurality of gate structures each having a gate conductive layer, disposed on the substrate, wherein each of first portions of the gate structures, disposed on the active region, further comprise a cap layer and a spacer, and second portions of the gate structures, disposed on the isolation region, do not comprise a cap layer and a spacer;

a dielectric layer, disposed above the gate structures;

a self-aligned contact, disposed in the dielectric layer and between two of the first portions of the gate structures; and

a conductive line, disposed on the dielectric layer, wherein the conductive line electrically connects with the self-aligned contact,

wherein a dielectric constant of the dielectric layer is lower than a dielectric constant of the cap layer and the spacer.

21. (currently amended) The structure of claim 20, wherein the spacer of one of the two the first portions of the gate structures is disposed between the self-aligned contact and the gate conductive layer of said one of the two first portions of the gate structures, and between the self-aligned contact and a remaining part of the cap layer of said one of the two first portions of the gate structures, ~~abutted to the spacer disposed between the self-aligned contact and the gate conductive layer, remains on the first portions of the gate structures .~~

22-25. (cancelled)

26. (currently amended) The structure of claim 20 further comprising a metal silicide layer formed on a sidewall of each of the gate conductive layers of the second portions of the gate structures.

27. (currently amended) The structure of claim 26, wherein ~~a sidewall of the~~ gate conductive layer of one of the first portions of the gate structures has a sidewall that is not adjacent to the self-aligned contact, and said sidewall further comprises a metal silicide layer.

28-31. (Cancelled).

Allowable Subject Matter

Claims 20, 21, 26 and 27 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH
May 9, 2005



**SHOUXIANG HU
PRIMARY EXAMINER**